



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Andrzej Kilian and David Bowtell

Title: VERTEBRATE TELOMERASE
GENES AND PROTEINS AND
USES THEREOF

Appl. Nos.: 09/108,401
09/502,424
09/502,498

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Examiner: Malgorzata A. Walicka

Art Unit: 1652

DECLARATION UNDER 37 C.F.R. § 1.132

Sir:

I, Andrzej Kilian, am an inventor of the above-listed applications, and I hereby declare as follows:

1. I am the Director of Genomics Research at CAMBIA (Center for the Application of Molecular Biology to International Agriculture) and an expert in gene discovery. I was awarded a Ph.D. from Silesian University in Poland for my studies on the population genetics of *Arabidopsis thaliana*. I conducted research in genetics and molecular biology, and specifically comparative RFLP mapping of barley and wheat as a Postdoctoral Fellow funded by the International Atomic Energy Agency at the Plant Breeding Institute in Cambridge, England. In 1991, I was a Visiting Professor at Washington State University where I performed key early work on plant telomere genetics and molecular biology. I cloned barley telomere associated sequences that allowed genetic mapping of almost all barley telomeres. In 1996 I joined CAMBIA as a Senior Research Scientist.

2. I and my co-inventor isolated, identified, characterized and sequenced the nucleotide sequence of the full-length telomerase gene prior to the filing date of the above-identified application. The nucleotide sequence we identified for the full length telomerase gene corresponds to the nucleotide sequence set forth in Figure 11D ("Reference Protein"). Further, the polypeptide sequence disclosed in Figure 11D corresponds to the telomerase protein sequence which we identified in the laboratory.

3. We also identified, characterized and sequenced the nucleotide sequences coding for the telomerase splice variants listed in Figures 11A-C, 11G-N, 11R-W of the captioned application prior to the captioned application's filing date. The nucleotide sequences listed in each of these figures is correct and corresponds to the nucleotide sequences which we identified in the laboratory. In particular, the codon that codes for amino acid 18 is "TAC" in these figures, and it codes for "Y" (tyrosine) not "T" (threonine). However, amino acid 18 is mistakenly identified as "T" (threonine) in each of these figures, whereas we identified amino acid 18 in the laboratory as being "Y" (tyrosine). This error arose during the preparation of the above-identified application. Specifically, Figures 11A-C, 11G-N, 11R-W were apparently prepared from Figure 11D, which lists the correct full length telomerase gene sequence and the correct telomerase polypeptide sequence using the correct three letter code for the amino acids. Apparently, a clerical error occurred when converting the three letter code for tyrosine ("Tyr") from Figure 11D to its one letter code for use in Figures 11A-C, 11G-N, 11R-W, i.e., amino acid 18 should have been identified as "Y" and not "T" in these figures.

4. The error at amino acid 18 in the figures identified in paragraph 3, above, is also in the following sequences in the sequence listing: SEQ ID NO:35 (Figure 11A), SEQ ID NO:37 (Figure 11B), SEQ ID NO:39 (Figure 11C), SEQ ID NO:42 (Figure 11G), SEQ ID NO:44 (Figure 11H), SEQ ID NO:46 (Figure 11D), SEQ ID NO:48 (Figure 11J), SEQ ID NO:50 (Figure 11K), SEQ ID NOs:52 and 53 (Figure 11L), SEQ ID NOs:56 and 58 (Figure 11M), SEQ ID NOs:60 and 62 (Figure 11N), SEQ ID NOs:68 and 70 (Figure 11R), SEQ ID NOs:72 and 74 (Figure 11S), SEQ ID NOs:76 and 78 (Figure 11T-U), SEQ ID NOs:80 and 82 (Figure 11V), and SEQ ID NOs:84 and 86 (Figure 11W). Each lists amino acid 18 as "T", but the corresponding codon, codon 18, is "TAC". In each case, threonine is incorrect because we identified amino acid 18 as tyrosine for each sequence.

Declaration of Dr. Andrzej Kilian

5. There is an additional minor clerical error in SEQ ID NO:39, which occurred during the preparation of the Sequence Listing. Figure 11C is the basis from which both SEQ ID NOs:38 and 39 were prepared. Figure 11C contains the correct nucleotide sequence and amino acid sequence, except at amino acid 18, discussed above. SEQ ID NO:38 is correct and contains the same nucleotide sequence as in Figure 11C. SEQ ID NO:39 contains an incorrect sequence of the polypeptide that is encoded by the correct nucleotide sequence listed in SEQ ID NO:38. In SEQ ID NO:39, the amino acid "His" was incorrectly omitted at amino acid position number 762. "His" should have been inserted at this position, and the remaining amino acids, i.e., 763-807, should have each been shifted to one higher numbered position. For example, in the originally filed sequence listing, "Val" is incorrectly listed as amino acid number 762, whereas "Val" should have been listed as amino acid 763 because "His" should have been listed as amino acid number 762. As stated above, the correct nucleotide sequence is in SEQ ID NO:38 and Figure 11C. For example, codons 761, 762 and 763 of SEQ ID NO:38 (Figure 11C) are correctly listed as "AGC," "CAC" and "GTC;" these codons encode amino acids "Ser," "His" and "Val," respectively.

6. I hereby declare that all the statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further, that these statements are made with the knowledge that willful false statements are so made punishable by fine or imprisonment, or both, under Section 101 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

2/1/2003
Date

Andrzej Kilian
Andrzej Kilian, Ph.D.